we have any trouble of consciousness. This is well enough, as expressing a pathological relationship of all these affections, but it extends the use of a name commonly applied only to a very formidable affection, to a very large number of minor disorders, a usage that can hardly become a general one, and which may possibly lead to misapprehensions. There may not be much in this point, but it has often seemed to us that if exactness of terms is desirable, it would be well to use different designations for the general pathological class and its individual species.

The after effects of epileptic discharges, here considered by Dr. Jackson, include such cases as those of transitory hemiplegia, aphasia, and other losses of function, following epileptic attacks. These are accounted for by the general principle that "parts of the central nervous system are temporarily exhausted by epileptic (that is, excessive) nervous discharges." We have in these cases only an exaggerated fatigue, reacting to a such degree as to produce actual temporary paralysis, sometimes closely simulating that due to organic gross disease.

It is not practicable to give a thorough abstract of this article; it is a suggestive one, that will well repay reading. It is not, however, a finished paper, the remainder is promised to be published for private circulation.

There are several other articles in the volume that are worthy of notice, but which we cannot do justice to here. As a whole, it is worthy of its predecessors in the series, and a valuable addition to medical literature.

IV. FOERSTER: DISEASES OF THE EYE IN NERVOUS AFFECTIONS.

BEZIEHUNGEN DER ALLGEMEIN-LEIDEN UND ORGANERKRANKUNGEN ZU VERÆNDERUNGEN UND KRANKHEITEN, des Sehorgans. Von Prof. Foerster. Handbuch der gesammten Augenheilkunde, red. von A. Graefe und Th. Sæmisch. Bd. VII., 1ste Hælfte. (*The relations of constitutional diseases and local affections to changes and diseases of the eye, etc.*

The plan of this rather novel undertaking is to describe all symptoms occurring in the organ of vision from affections of other organs, and to study the etiology of diseases of the eye, as far as it is in relation to external disease. As the subject both of the greatest importance and of chief interest to the readers of the JOURNAL, we will limit the review to the article on the nervous system (pp. 104–145).

To no other organ is the eye as nearly related as to the brain, since it is not only in close proximity, but the retina and optic nerve are to be considered as parts of the brain. Besides, the eye and its appendages are supplied by five pairs of nerves, the 3d, 4th, 5th, 6th, and 7th; its vessels also communicate with those of the cranial cavity, as well as its lymph spaces connect with the spaces between the dura mater and the pia mater.

Nevertheless *cerebral hyperœmia* cannot be positively diagnosed' by the vascular state of the conjunctiva or even retina. Apoplexy, as a rule, causes no alteration in the retina; frequent ecchymoses, however, in the conjunctiva or retina are of a prognostic value in indicating impending apoplexy. *Miliary aneurisms* of the brain could probably be diagnosed by an ophthalmoscopic examination,' since they have been found by Liouville in the dead retina.

Suppuration in the interior of the eye in *cerebro-spinal meningitis* is the result of the spreading of the process along the lymph-spaces of the optic nerve; there may be also, however, a continued inflammation of the optic nerve and retina without implication of the choroid. Paralysis of the lids from meningitis may lead to exposure of the cornea and subsequent ulcerative keratitis. The implication of the motor nerves of the eye can produce irritative (such as pupillary contraction) or paralytic symptoms. Amaurosis occurring from meningitis is sometimes caused by the pressure of an exudation on the optic nerve, and hence the possibility of resolution. In some cases the inflammatory process extends from the meninges directly to the orbital cellular tissue without involving any integral part of the eye or injuring the vision. Leyden considers the chemosis of the conjunctiva thus produced as an aid in the diagnosis of acute purulent meningitis.

Increased intra-cranial pressure from whatever cause is often manifested by an optic neuritis, neuro-retinitis or choked disc. The occurrence of the latter is now correctly explained by Manz by a distension with fluid of the subvaginal lymph-space of the optic nerve—*hydrops vaginæ optici*—compressing the vessels of the nerve. Injection of fluid into the subdural space of rabbits produces the phenomena of choked disc. Vision, however, may not suffer in this state. The most frequent causes of choked disc are tumors of the brain.

The seat of an intra-cranial morbid process is often revealed by a study of the field of vision. In conformity with the theory of semi-decussation of the fibres in the optic chiasm the following two varieties—and only these—of hemiopia are observed:

1. In the visual field of both eyes, the *external* half is defective; only objects situated on the internal side of the point of fixation are seen, (corresponding to loss of function of the *internal* half of the retina)—*nasal hemiopia.*

2. In the visual field of one eye the *external* half, of the other eye, the *internal* half is defective—*homonymous hemiopia.*

Nasal hemiopia is a slow, progressive affection, caused by

o

some morbid process invading the centre of the chiasm. Homonymous hemiopia, on the other hand, a more frequent symptom, is mostly of sudden origin, frequently occurring with apoplexy and remaining stationary. It points therefore to a localized process involving the tractus opticus somewhere between the central origin and the chiasm. Foerster has also seen some cases in which there is no complete hemiopia, but only a small defect in identical spots of the visual field of both eyes.

An allied condition seems to be the so-called *Flimmerskotom.* (Amaurosis partialis fugax. Foerster.) This trouble, evidently of central origin, consists of a suddenly occurring defect in identical spots of the visual field of both eyes, gradually increasing in extent and surrounded by a zone of flickering. This condition lasts usually but 15 to 25 minutes.

Many brain diseases give rise to symptoms on the part of the ocular muscles, paralysis or more rarely to spasm and nystagmus. An involvement of several of the motor nerves of the eye points to some process localized in their nuclei in the floor of the fourth ventricle.

As regards the co-ordination of ocular movements, the anterior tubercula quadrigemina seem of importance In Adamiuk's experiments, irritation of one of the anterior tubercula caused the eyes to be directed towards the opposite side, and if strong enough, the head was turned in the same direction. A deep incision separating the tubercula in the median line, limeited the effects to the eye of the same side. Irritation of the median line produced an upward movement of the eyes with dilatation of the pupils, while a downward and inward movement and pupillary contraction is the result of irritation on the posterior part of the tubercula (similar movements have also been obtained by Ferrier, from irritation of the cerebellum). In confirmation of these experiments are the statements of Prevost, that:

"In apoplexy, turning of the eyes and head towards one side is observed.

1. If the process is located in the hemispheres the eyes and head are turned towards the side affected, though sometimes only for a few days.
2. If the process occurs in the isthmus encephali, the eyes may also be directed towards the opposite side, and remain thus for some time."

Partial cerebral sclerosis gives rise occasionally to atrophy of the optic nerve. However, of more importance in the diagnosis is the occurrence of paresis of the ocular muscles (and diplopia) and especially a state resembling nystagmus, a tremulousness in the movements, not existing during rest. While multiple incomplete paralyses of ocular muscles point to some diffuse process in the brain, the successive complete destruction of function of ocular motor nerve is a rather positive evidence of a localized process such as a tumor, etc., at the base of the brain.

Mental diseases give rise frequently to differences in the width of the two pupils; in fact, this symptom occurring in apparent health has some prognostic importance. Inflammatory or atrophic changes of the papilla are also no rare symptom in insanity; especially in *general paresis* is atrophy a frequent occurrence.

Tabes dorsalis is often accompanied by atrophy of the optic nerves. There is even evidence that this symptom may precede all other manifestations of the disease by several years. This atrophy is characterized by a gradual limitation of the visual field commencing at the periphery, while sight may remain tolerably fair in the vicinity of the macula lutea. A subjective symptom of the ataxic atrophy is a want of sensibility for red and green rays. There is an aversion to too bright a light; the patients claim to see better at dusk than with sunlight. The trouble is always progressive, although the patients are often remarkably hopeful.

Other symptoms of *tabes dorsalis* are slight, transient and recurring pareses of ocular muscles. Pupillary changes are also frequent, especially contraction with immobility to light, while efforts at accommodation render the pupil still narrower. The same occurs also in injury of the spinal cord.

Paralysis of the cervical sympathetic nerve, by pressure of tumors, etc., causes pupillary contraction; the slight *ptosis* mostly coincident is evidently due to the inactivity of the unstriated muscular fibres discovered by H. Mueller in the lids. A diminished tension of the eye and retraction into the orbit are also observed in long continued cases. The pupillary changes in hemicrania have been repeatedly discussed in this JOURNAL.

As regards the so-called neuro-paralytic keratitis, consequent to section of the trigeminus, Foerster maintains its traumatic origin, since the eye not feeling any injuries does not seek to protect itself against them. (Recent experiments, however, by Ferrer, *Wiener Sitzungsberichte*, have shown conclusively that the process is caused merely by the drying of the cornea, in consequence of the maintained immobility of the lids, following paralysis of the trigeminus.)

Epileptic seizures produce occasionally ecchymosis of the conjunctiva, referable to venous stasis. In the beginning of the attack, pupillary dilatation is often noticed. Anæmia of the retina has been seen by Hughlings Jackson during the attack ; in the interval venous congestion, and sometimes choked disc has been found.

In *hysteria* a few cases of more or less transient amaurosis have been described. A different affection, however, is the so-called *anæsthesia retinæ*, with concentric limitation of the visual field. This disease, as described by v. Graefe, does not seem to depend on hysteria.

In the chapter on relations of diseases of the sexual organs to the eye (p. 88), Foerster describes a peculiar form of asthenopia, which he calls *kopiopia hysterica.* The patients, almost exclusively females, complain of irregular attacks of pain, and unpleasant sensations in or around both eyes, which are aggravated by reading, mental or physical exertion. There is likewise photophobia, especially to artificial light. Local treatment, by means of spectacles, etc., produces no improvement. According to Freund (of Breslau), the affection is always coincident with a peculiar form of chronic parametritis, leading to atrophy of the pelvic cellular tissue. The above abstract suffices to show that the subject is essentially a new one, and how it has been treated.

The happy blending of personal observations of the author with the previously-known scattered facts, the precise and critical style, and the absence of diluting verbosity, make the entire work profitable and readable. H. G.

V.—BUCKNILL: AMERICAN INSANE ASYLUMS.

Notes on Asylums for the Insane in America. By John Charles Bucknill, M. D., etc. London: J. & A. Churchill, New Burlington Street, 1876.

There is perhaps no higher English authority on insanity, in both its medical and legal relations, than the author of these notes of a visit, in the summer of 1875, to some of the insane asylums of the United States and Canada. Nor is it alone as a writer that Dr. Bucknill is distinguished in his own country. He has served for many years with success as the medical superintendent of a public asylum, and more recently in the important office of Lord Chancellor's visitor in lunacy. The "Notes" appeared first in the *London Lancet*, where they excited considerable interest and no small controversy. As we should expect, at least an equal interest has been felt by those in our own country who are the subjects of Dr. Bucknill's free and confident criticism. This did not fail to appear at the last meeting of Superintendents of American Insane Asylums, in St. Louis, although from motives of policy a full discussion of the vexed questions raised by the book was not encouraged. We shall endeavor to write of Dr. Bucknill's facts and comments with that freedom and plainness of speech of which he has set the example.

In his preface, and throughout many subsequent pages, the writer strongly condemns the free use of mechanical restraints in American asylums, and urges their superintendents to adopt the so-called "system" of non-restraint. We are compelled to